INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 1995	**Park:** Shenandoah NP
Principal Investigator: Christopher Greene	**Office Phone:** (804)924-0581 **Email:** n/a
Address: University of Virginia Dept. of Environmental Science Clark Hall Charlottesville, VA 22903 VA	**Office Fax:** n/a

Additional investigators or key field assistants (first name, last name, office phone, office email):

Name: Dr George Hornberger	**Phone:** n/a	**Email:** n/a
Name: Dr Jeff Raffensperger	**Phone:** n/a	**Email:** n/a

Permit#:
SHEN1995ANOF

Park-assigned Study Id. #:
unknown

Project Title:
Mechanisms Of Groundwater Transport In A Stream-Saprolite System With Transient Storage Capabilities

Permit Start Date: Jan 01, 1998	**Permit Expiration Date** Jan 01, 1998
Study Start Date: Jan 01, 1994	**Study End Date** Jan 01, 1997

Study Status:
Completed

Activity Type:
Other

Subject/Discipline:
Water / Hydrology

Objectives:
The main objectives of this project are to characterize the transport of precipitation, groundwater, and surface water within a drainage basin near Old Rag Mountain. We intend to determine how much of the increased streamflow during precipitation events comes from precipitation and how much comes from displaced groundwater. We also plan to apply a mathematical model to the data in order to determine the hydrological characteristics of the area.

Findings and Status:
The continuous water-table data indicates that there is a rapid repsonse of the water table to precipitation events in areas near the stream. The water table typically rises 6 to 12 centimeters in 15 to 60 minutes at the onset of rain, followed by a more gradual decline.;Preliminary runs of the TOPMODEL modeling software indicate that even for a significant rainfall (the remnants of Hurricane Opal which passed over the area in early October), wetting up of the surface is minimal or nonexistent. This observation is in accord with our field observation, which only showed wetting of the surface and overland flow at a single location less than a meter from the stream itself.

For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?
No

Funding provided this reporting year by NPS: 0	**Funding provided this reporting year by other sources:** 10000

Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college

Full name of college or university:	**Annual funding provided by NPS to university or college this reporting**

	year:
UNIVERSITY OF VIRGINIA	1500